IMPROVED INSULATED DOOR ASSEMBLY WITH LOW THERMAL DEFLECTION

CROSS-REFERENCE TO RELATED APPLICATIONS

~~This application~~ which is a continuation-in-part of U.S. application Serial No. 08/922,988 filed September 2, 1997, which is incorporated herein by reference. now U.S. Patent 5,932,314

TECHNICAL FIELD

The present invention pertains to insulated door assemblies having compression molded skins which exhibit minimal thermal deflection. More particularly, the subject invention pertains to insulated door assemblies having skins of compression molded, moderately dark colored, fiber- reinforced sheet molding compound which exhibit reduced thermal expansion and contraction, which retain the ability to receive pigmented stains in a uniform manner, and to improved processes for their preparation.

BACKGROUND ART

Entry door system containing fiber reinforced compression molded door skins are becoming increasingly popular. An example of the latter is the Classic-Craft™ door available from Therma-Tru Corporation. Such entry door systems contain front and back skins which are generally both prepared from fiber reinforced sheet molding compound which has been compression molded to provide a wood grain pattern on the door skin. These door skins are mounted onto stiles and rails and contain highly efficient thermal insulation between the skins. Examples of such door assemblies may be found in U.S. Patents 4,550,540 and 5,537,789. Such door entry systems are much more thermally efficient than solid wood doors or insulated metal doors, as well as being more aesthetically pleasing than the latter.

However, the increased thermal efficiency of such doors is a mixed blessing, often being so effective in reducing thermal transmission from the exterior to the interior that temperature differentials of 55-60°C may be created between the